

DOCKET NO: V0191.70035US00

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Edward Budowsky, et al.
Serial No: Not yet assigned
Confirmation No: Not yet assigned
Filed: Herewith
For: METHODS AND COMPOSITIONS FOR THE SELECTIVE
MODIFICATION OF NUCLEIC ACIDS

MAIL STOP PATENT APPLICATION

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

STATEMENT FILED PURSUANT TO THE DUTY OF
DISCLOSURE UNDER 37 CFR §§1.56, 1.97 AND 1.98

Sir:

Pursuant to the duty of disclosure under 37 C.F.R. §§1.56, 1.97 and 1.98, the Applicant requests consideration of this Information Disclosure Statement.

PART I: Compliance with 37 C.F.R. §1.97

This Information Disclosure Statement has been filed before the mailing date of a first Office Action on the merits in the above-identified case.

No fee or certification is required.

PART II: Information Cited

The Applicant hereby makes of record in the above-identified application the information listed on the attached form PTO-1449 (modified). The order of presentation of the references should not be construed as an indication of the importance of the references.

The Applicant hereby makes the following additional information of record in the above-identified application.

PART III: Explanation of Non-English Language References and Remarks Concerning Other Information Cited

The following is a concise explanation of the relevance of each non-English language reference listed on the attached form PTO-1449 (modified):

The following are remarks concerning the other information cited:

PART IV: Remarks

Documents cited anywhere in the Information Disclosure Statement are enclosed unless otherwise indicated. It is respectfully requested that:

1. The Examiner consider completely the cited information, along with any other information, in reaching a determination concerning the patentability of the present claims;
2. The enclosed form PTO-1449 be signed by the Examiner to evidence that the cited information has been fully considered by the Patent and Trademark Office during the examination of this application;
3. The citations for the information be printed on any patent which issues from this application.

By submitting this Information Disclosure Statement, the Applicant makes no representation that a search has been performed, of the extent of any search performed, or that more relevant information does not exist.


By submitting this Information Disclosure Statement, the Applicant makes no representation that the information cited in the Statement is, or is considered to be, material to patentability as defined in 37 C.F.R. §1.56(b).

By submitting this Information Disclosure Statement, the Applicant makes no representation that the information cited in the Statement is, or is considered to be, in fact, prior art as defined by 35 U.S.C. §102.

Notwithstanding any statements by the Applicant, the Examiner is urged to form his own conclusion regarding the relevance of the cited information.

An early and favorable action is hereby requested.

Respectfully submitted,
Edward Budowsky, et al., Applicant


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Docket No. V0191.70035US00

Date: September 3, 2003

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FORM PTO-1449/A and B (Modified) INFORMATION DISCLOSURE STATEMENT BY APPLICANT				APPLICATION NO.: Not yet assigned		DOCKET NO.: V0191.70035US00	
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U.S. PATENT DOCUMENTS

Examiner's Initials	Cite No.	U.S. Patent Document		Name of Patentee or Applicant of Cited Document	Date of Publication or of issue of Cited Document MM-DD-YYYY
		Number	Kind Code		
	*A1	US 3,487,157		Pierce, et al.	12/30/1969
	*A2	US 3,636,196		Bauer, et al.	01/18/1972
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	*A4	US 5,547,576		Onishi , et al.	08/20/1996
	*A5	US 5,691,132		Wollowitz , et al.	11/25/1997
	*A6	US 5,891,705		Budowsky , et al.	04/06/1999
	*A7	US 6,093,564		Budowsky , et al.	07/25/2000
	*A8	US 6,093,725		Cook , et al.	07/25/2000
	*A9	US 6,114,108		Budowsky	09/05/2000
	*A10	US 6,136,586		Budowsky	10/24/2000
	*A11	US 6,143,490		Cook , et al.	11/07/2000
	*A12	US 6,171,777		Cook , et al.	01/09/2001
	*A13	US 6,177,441		Cook , et al.	01/23/2001
	*A14	US 6,331,387 (withdrawn patent)		Hei, et al.	12/18/2001
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	*A17	US 4,567,042		Acree, et al.	01/28/1986
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	*A26	US 5,698,432		Oxford	12/16/1997
	*A27	US 5,418,130		Platz, et al.	05/23/1995
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	*A30	US 4,098,726		Wagner et al.	06/04/1978
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FOREIGN PATENT DOCUMENTS

Examiner's Initials	Cite No.	Foreign Patent Document			Name of Patentee or Applicant of Cited Document (not necessary)	Date of Publication of Cited Document MM-DD-YYYY	Translation (Y/N)
		Office/ Country	Number	Kind Code			
	*B1	EP	EP 0 476 711	A2, A3	Nakai, et al.	03/25/1992	
	*B2	JP	JP 6-805520	A	Ohwada, et al.	03/22/1994	Yes
	*B3	WO	WO 96/14737	A1	Cook, et al.	05/23/1996	
	*B4	WO	WO 96/39820	A1	Hei, et al.	12/19/1996	
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	*B6	WO	WO 97/21346	A1	Wollowitz, et al.	06/19/1997	
	*B7	WO	WO 98/45415	A1	Budowsky, et al.	10/15/1998	
	*B8	WO	WO 99/17802	A1	Budowsky, et al.	04/14/1999	
	*B9	SU	1809836	A3	Soviet Union; English Translation	04/15/1993	Yes
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	*B16	WO	92/04031		PCT	03/19/1992	
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OTHER ART — NON PATENT LITERATURE DOCUMENTS

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		Repair Capability, " Mutat Res. 1994 Apr; 321(1-2):27-34		
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	*C17	Hamza, A. Quantum Molecular Modeling of the Interaction Between Guanine and Alkylating Agents—2-Mrogen Mustard J. Biomol Struct Dyn 1996 Jun; 13(6):915-24		
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	*C19	Hartman, F.W. et al.. "On the Chemical Sterilization of Blood and Blood Plasma." Proc. of Soc.. Exp. Bio. Med. 1949;70:248-54		
	*C20	Hartman, F.W., et al.. "Four-Year Study Concerning the Inactivation of Viruses in Blood and Plasma," Presented at the 55th Annual Meeting of the American Gastroenterological Association, San Francisco, California, June 1954		
	*C21	Hassanain, M.M., "Preliminary findings for an inactivated African horsesickness vaccine using binary ethyleneimine" Revue Elev. Med. Vet. Pays Trop. 45: 231-234 (1992)		
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	*C28	LoGrippo, G.A et al.. "Chemical and Combined Methods for Plasma Sterilization. , 6th Congress of the Int'l Soc. of Blood Trans., 1958, pp. 225-230	
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	*C35	Verschaeve, L. et al. "Mutagenicity of Ethyleneimine" Mutation Res. 238:39-55 (1990)	
	*C36	Vlasov, V.V. et al., "The Feasibility, Of Blocking Influenza Infections By Means Of Alkylating Derivatives Of Oligonucleotides," Molecular Genetics, Microbiology, And Virology, 1984, No. 11	
	*C37	Warrington, "Derivatives of Aziridine as Inactivants for Foot-and-Mouth Disease Virus Vaccines" Am J. Vet. Res., Vol. 34, No. 8. pp. 1087-1091	
	*C38	Wickham, G. et al., "DNA-binding Properties and Antitumor Activity of Monofunctional Alkylating Groups Attached to the DNA-intercalating Chromophore Phenanthridine: n-Bromoalkylphenanthridinium Bromides," Biochim et Biophysica Acta 1991 1073:528-37	
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	*C40	Yamamoto, et al. Cancer Research 26, pt. 1, 2301-2306 (Nov 1966)	
	*C41	Yang, C. et al The Preparation of an Inactivated Antigen for Bluetongue Serology Zentralbl Veterinarmed [B] 1984 May; 31(4); 290-6.	
	*C42	Zalesskaya, M.A., "Inactivation of viral genome by beta-propiolactone and ethyleneimines using the bacteriophage MS-2 as an example," Russian State Library, Moscow, Russia (1988)	
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	*C46	Budowsky et al., "Inactivation of the phage MS2 infectivity by the action of ethyleneimines" Biorg. Khim. 11:989-991 (1985) (in Russian). English Abstract	
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	*C50	DERMER, O.C. and Ham, G.E. (1969) Ethyleneimine And Other Aziridines, Acad. Press, NY-- London 52:249-285.	
	*C51	EARLEY, J.E. et al. (1958) J. Am Chem. Soc. 80:3458-3462.	
	*C52	HEMMINKI, K. Reactions of Nitrogen Mustards with DNA IARC Sci. Publ 1986; (78):55-70	
	*C53	KING, Evaluation of different methods of inactivation of newcastle disease virus and avian influenza virus in egg fluids and serum Avian Diseases 35:505-514 (1991).	
	*C54	KOCHETOV, N.K. and Budowsky, E.I. eds. (1972) p.48-55, Organic Chemistry of Nucleic Acids, Part B, Plenum Press, London-New York.	
	*C55	KOSTYANOVSKII et al., Oligomers of azridines and N-beta-azridinoethylamides, Bull. Acad. Sci. USSR, Div. Chem. Sci., 37:2315-2325 (1989). (Translated from Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya 11:2566-2575.).	
	*C56	O'ROURKE et al, "Reaction of ethylenimines. VIII. Dissociations constants" J. Am. Chem. Soc. 78:2159-2160 (1956).	
	*C57	PRODOUZ et al., Inhibition of merocyanine 540-mediated photosensitization of platelets and viruses Transfusion 31:415-422 (1991).	
	*C58	RACE, E. An Experimental Chemically Inactivated HIV-1 Vaccine Induces Antibodies that Neutralize Homologous and Heterologous Viruses Vaccine 1995, VI 13, No. 1 54-80	
	*C59	STEVENS et al., "Studies on the Interaction of Homologues of Spemine with Deoxyribonucleic Acid and with Bacterial Protoplasts" Biochem J. 103:811-815 (1967).	
	*C60	TANIRBERGENOV, T.B. et al., Regularities of mutagenic and toxic effects of ethyleneimine and its oligomers. A comparative study in the automated system SOS-chromotest and in standard bacterial test systems, Genetika 24:763 (1988) (in Russian). English translation provided, 5 pages.	
	*C61	THANEI-Wyss, Interaction of quaternary ammonium compounds with acetylcholinesterase: characteristics of the active site Eur. J. Pharmacol., Mol. Pharmacol. Sect. 172:165-173 (1989).	
	*C62	THOMAS, et al., "Ionic and Structural Effects on the Thermal Helix-Coil Transition of DNA Complexed with Natural and Synthetic Polyamines" Biopolymers 23:1295-1306 (1984).	
	*C63	TWOMEY et al., Structure and immunogenicity of experimental foot-and-mouth disease and poliomyelitis Vaccine 13:1603-1610 (1995).	
	*C64	VAN ETEN, R.L. and Dolhum, J.J. (1968) J. Org. Chem. 33:3904-3913.	
	*C65	WAGNER, S.J. et al.. Approaches to the Reduction of Viral Infectivity in Cellular Blood Components and Single Donor Plasma. Transfusion Medicine Reviews January 1991; V(1): 18-32	

EXAMINER	DATE CONSIDERED
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#EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

*a copy of this reference is not provided as it was previously cited by or submitted to the office in a prior application, Serial No. 09/212,778, filed December 16, 1998, and relied upon for an earlier filing date under 35 U.S.C. 120 (continuation, continuation-in-part, and divisional applications).